



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/004,750

12/03/2001

Hiroaki Takahashi

450100-03664

8292

20999

7590

10/05/2004

FROMMER, LAWRENCE & HAUG  
745 FIFTH AVENUE, 10TH FL.  
NEW YORK, NY 10151

EXAMINER

GESESSE, TILAHUN

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 10/05/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/004,750

Applicant(s)

TAKAHASHI ET AL.

Examiner

Tilahun B Gesesse

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-25 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5,7,9,11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanoue (US 5,608,765).

As to claim 1, Tanoue discloses a transmitter apparatus (radio base station 100) comprising:

Tanoue discloses a front-end transmission processing unit (phase correction section 17) for converting transmission signal into a transmission time slot (column 2, lines 21-31) and

Tanoue discloses a frame generator for generating a frame including a series of time slots and a frame guard period added to the series of n time slots to suppress a frame loss due to interference (column 3, lines 5-38 and figures 2A-3C). Since, frames signal with no phase and synch corrected introduce frame loss and interferes to each other, then, correction and synchronization is necessary to prevent from transmit frames loss.

Tanoue discloses a back-end transmission processing unit (11) for transmitting the generated frame as a radio signal (transmitter 11 in connection with antenna switch 14 , converts the frames into radio signal, see figure 1).

As to claim 2, Tanoue inherently teaches the front end transmission processing unit include a modulator for modulating transmission information by means of a proper modulation scheme selected on the basis of electric field strength information received from a communication terminal to which the transmission information is transmitted (column 2, lines 32-61 and figure 1).

As to claim 3, Tanoue discloses the frame guard period is a non-signal period ( is non signaling period to reduce interference between adjacent channels , figure 2B).

As to claim 4, Tanoue discloses the front end transmission processing unit generating a time slot by adding a predetermined guard period to an efficient symbol period (figure 2A and 2B).

As to claim 5, Tanoue discloses a transmitter apparatus (radio base station 100) comprising:

Tanoue discloses a front-end transmission processing unit (phase correction section 17) for converting transmission signal into a transmission time slot (column 2, lines 21-31) and

Tanoue discloses a frame generator for generating a frame including a series of time slots and a frame guard period added to the series of n time slots to suppress a frame loss due to interference (column 3, lines 5-38 and figures 2A-3C). Since, frames

signal with no phase and synch corrected introduce frame loss and interferes each other, then, correction and synchronization to prevent from transmit frames loss.

Tanoue discloses a back-end transmission processing unit (11) for transmitting the generated frame as a radio signal (transmitter 11 in connection with antenna switch 14 , converts the frames into radio signal, see figure 1).

As to claim 7, Tanoue inherently teaches the front end transmission processing unit include a modulator for modulating transmission information by means of a proper modulation scheme selected on the basis of electric field strength information received from a communication terminal to which the transmission information is transmitted (column 2, lines 32-61 and figure 1).

As to claim 9, Tanoue discloses the frame guard period is a non-signal period (is non signaling period to reduce interference between adjacent channels, figure 2B).

As to claim 11, Tanoue discloses the front-end transmission-processing unit generating a time slot by adding a predetermined guard period to an efficient symbol period (figure 2A and 2B).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6,8,10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanoue in view of Gous et al (2002/0037732).

Art Unit: 2684

As to claim 6, Tanoue does not teach a timing generator for generating a timing signal on the basis of a GPS signal. However, Gous et al teaches a timing generating on the basis of a GPS signal to synchronize base stations (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to acquire GPS signal for synchronization between base station and transmission between mobile station on time, as taught by Gous et al. for preventing interference or avoid collision of from data at the receiving end.

As to claim 8, Tanoue inherently teaches the front end transmission processing unit include a modulator for modulating transmission information by means of a proper modulation scheme selected on the basis of electric field strength information received from a communication terminal to which the transmission information is transmitted (column 2, lines 32-61 and figure 1).

As to claim 10, Tanoue discloses the frame guard period is a non-signal period (is non signaling period to reduce interference between adjacent channels, figure 2B).

As to claim 12, Tanoue discloses the front-end transmission-processing unit generating a time slot by adding a predetermined guard period to an efficient symbol period (figure 2A and 2B).

***Allowable Subject Matter***

Claims 13-25 are allowed over the prior art.

The following is an examiner's statement of reasons for allowance: the prior art does not explicitly teach the feature of a synchronization position detector for detecting a starting position of an effective symbol period in the received signal; a timing generator for controlling an operation timing of a functional block, on the basis of synchronization position information supplied from the synchronization position detector; a reception windowing unit for extracting only an effective symbol period including no time guard period and no frame guard, under the control of time generator. These limitations, in conjunction with all limitations of the independent claims, have not been disclosed, taught or made obvious over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

.Rudolf et al (2002/0039906) discloses plurality of time slots each time slot guard period to avoid an encroachment of the synchronization sequence (page 1 para.0004-0005 and figure 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tilahun B Gesesse whose telephone number is 703-308-5873. The examiner can normally be reached on flex.

Art Unit: 2684

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tilahun Gesesse  
Primary Examiner  
US Patent and Trademark Office  
Tel. # 703-308-5873



**TILAHUN GESESSE**  
**PATENT EXAMINER**